

* SWBAT solve problems involving change in velocity

Sep 6-2:31 PM

Welcome!!!

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SECA Physics
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* Pick up:

- slip of paper (for later)
- whiteboard, marker, eraser

Centering...

Opening Question:

Something is accelerating if it is...

- SPEEDING UP
- SLOW DOWN
- or - CHANGE DIRECTION

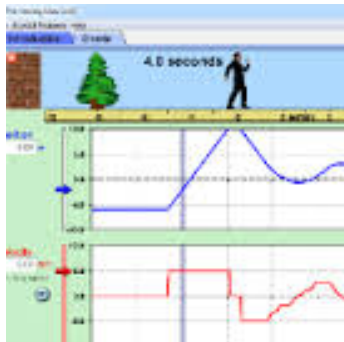


What is it called if your pay changes?

Sep 7-7:04 AM

Moving man -- what did you try?

Centering...



Oct 14-9:17 AM

More rate practice...

PHYSICS VERSION

Bike 100 mi:

in 5 hrs $\Rightarrow S = \frac{100 \text{ mi}}{5 \text{ h}} = 20 \frac{\text{mi}}{\text{h}} \quad \frac{\$100}{5 \text{ h}} = \$20/\text{h}$

$+10 \text{ mi}/\text{ride}/\text{wk}$

$100 \text{ mi}/\text{wk} + 5 \text{ wk} \cdot 10 \frac{\text{mi}}{\text{wk}}$

$= 150 \text{ mi}/\text{wk}$

$\frac{150 \text{ mi}}{5 \text{ hr}} = 30 \frac{\text{mi}}{\text{hr}}$

* DJ gig last Saturday for \$100, takes 5 hours:
How much are you making per hour?

* Good job, so you'll do the gig every week and
get \$10 per gig **raise** each week:
What is the rate of change of your pay?

$+ \$10/\text{gig}/\text{wk}$

* How much will you make per gig 5 weeks from
now? $\$100/\text{gig} + 5 \text{ wk} \times (\$10/\text{gig}/\text{wk}) = \$150/\text{gig}$

* How much will you make per hour then?

$\$150/5 \text{ hr} = \$30/\text{hr}$

* Running Back has 200 yards over the last 4 games.
What is his average yards per game?

$\frac{200 \text{ yd}}{4 \text{ gm}} = 50 \text{ yd}/\text{gm}$

* One excellent running back averages 100
yards/game. How many yards should we expect from
him (total) over the next 3 games?

* Tendonitis in his knee. He's losing about 10 yards
per game from his average each week. What will his
yards per game be after 3 weeks of this?

Oct 19-7:20 AM

Catchy Physics Phrases: Speed, Velocity, Acceleration

Speed is

Change in distance over
change in time

EXAMPLE

$$SPEED = \frac{\Delta d}{\Delta t}$$

$$DIST = SPEED \cdot TIME$$

$$5m = 1m/s \cdot 5s$$

Velocity is

Speed with direction

Acceleration is

Change in velocity over
change in time

- SPEED UP - SLOW DOWN
- CHANGE DIRECTION

"g" is the acceleration due to gravity
On earth, it is about 10 m/s^2

$$a = \frac{\Delta v}{\Delta t}$$

$$VELOCITY = ACCEL \cdot TIME$$

$$\downarrow \quad \downarrow \quad 3 \text{ sec}$$

$$= g$$

$$\frac{10 \text{ m}}{1 \text{ s}} \cdot 3 \text{ s} = 30 \frac{\text{m}}{\text{s}}$$

Oct 4-7:27 AM

$$SPEED = \frac{\Delta d}{\Delta t}$$

$$DIST = SPEED \cdot TIME$$

$$a = \frac{\Delta v}{\Delta t}$$

$$VELOCITY = ACCEL \cdot TIME$$

ON EARTH

$$g = 10 \text{ m/s}^2$$

Changing rate practice

- Work alone or with one other person

- Do the worksheet

- Check with people around you!

When you're done:

Invent your own question about
calculating acceleration

Oct 19-7:20 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP Homework - Create and answer a problem about "a"

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. What is the speed of a bowling ball that moves 6 meters in 3 seconds?

2. Light travels in a straight line at a constant speed of 300,000 km/s. What is the light's acceleration?

3. If a freely falling rock on earth were equipped with a speedometer, by how much would its speed readings increase with each second of falling?

Oct 8-6:48 AM